INTERNATIONAL ASSOCIATION FOR SOCIAL SCIENCE INFORMATION SERVICE AND TECHNOLOGY

IASSIST

NEWSLETTER

Volume 5 Number 3

NOTES ON THE SOCIAL SCIENCES AS PRODUCERS OF TECHNOLOGIES 49
Richard C. Rockwell
A COMPUTER CENTER SURVEY: WHAT STUDENTS DON'T LIKE 56
Gary P. Fisher

NEWS AND NOTES

Data Services: Development and Management 64
Need for Foreign Census and Survey Data 66
Treasurer's Report 67

EDITORIAL INFORMATION

The IASSIST *Newsletter* represents an international cooperative effort on the part of individuals managing, operating, or using machine-readable data archives, data libraries, and data services. The *Newsletter* reports on activities related to the production, acquisition, preservation, processing, distribution, and use of machine-readable data carried out by its members and others in the international social science community. Your contributions and suggestions for topics of interest are welcomed. The views set forth by authors of articles contained in this publication are not necessarily those of IASSIST.

Information for Authors

The *Newsletter* is published four times yearly. Articles and other information should be typewritten and double-spaced. Each page of the manuscript should be numbered. The first page should contain the article title, author's name, affiliation, address to which correspondence may be sent, and telephone number. Footnotes and bibliographic citations should be consistent in style, preferably following a standard authority such as the University of Chicago Press *Manual of Style* or Kate L. Turabian's *Manual for Writers*. If the contribution is an announcement of a conference, training session, or the like, the text should include a mailing address and a telephone number for the director of the event or for the organization sponsoring the event. Book notices and reviews should not exceed two double-spaced pages. Manuscripts should be sent in duplicate to the Editor:

Howard D. White
School of Library and Information Science
Drexel University
Philadelphia PA 19104 USA
(215) 895-2481 or (215) 895-2475

Book reviews should be submitted in duplicate to the Book Review Editor:

Kathleen M. Heim
Graduate School of Library Science
University of Illinois at Urbana-Champaign
329 Main Library
Urbana IL 61801 USA

Key Title: Newsletter - International Association for Social Science
Information Service and Technology
ISSN - United States: 0145-238X
Copyright © 1981 by IASSIST. All rights reserved.

NOTES ON THE SOCIAL SCIENCES AS PRODUCERS OF TECHNOLOGIES

RICHARD C. ROCKWELL*
SOCIAL SCIENCE RESEARCH COUNCIL
WASHINGTON, D.C.

The focus of this conference is on computerization--the premier technology of the late twentieth century--and what it has meant for the social sciences. In these remarks I consider the production of new technologies by the social sciences themselves. Social science research is the source of a number of technological innovations that have proved their utility and value in the commercial market place. This assertion can be supported by examples and by rhetoric, but not yet by systematic research and quantitative measurement. In this paper I develop approaches to the measurement of social science technologies (SST) and suggest research questions that I would like to see social scientists address in this area.1)

Definitions and examples of social science technologies.

A simple dictionary definition of technology is "applied science." A somewhat less broad definition refers to a technical method of achieving a practical purpose. Neither definition conveys the sense that technology requires a physical process or hardware, but we easily lapse into the equation of technology with tangible things. That fallacious equation has led to the virtual exclusion of SST from official statistics and research on technological innovation and diffusion, and this exclusion has costs for both the science and the society.

---

* This paper was delivered at the 1981 IFDO/IASSIST conference in Grenoble. The views expressed are not necessarily those of the Social Science Research Council.

1) I draw most of my understanding of technology and of the role of the social sciences in society from that society with which I am most familiar, the United States, and I would therefore like to avail myself of the international character of this conference by learning the applicability of my remarks in other contexts.

There are many different sorts of practical knowledge that can be put to use. What distinguishes technology from other applications of knowledge is that technology has its roots in scientific research. Almost all of the sciences produce technologies, and I shall show that the social sciences are well-represented in this company. Where our technologies perhaps most differ with those produced by physics, chemistry, and biology is that our knowledge often directly competes with knowledge based on tradition, experience, and "common sense." But that competition has been strikingly successful in the last fifty years, perhaps because of the growth of our body of knowledge--facts, generalizations, methods, concepts, and theories.

There are many applications of social science other than SST. Social commentary and criticism, whether by accredited social scientists or by others, has shaped our present world, but by SST's I do not mean these or more general contributions to knowledge, culture, or enlightenment. Nor do I mean the design and evaluation of public programs and public policy, or the data gathering and societal monitoring activities that are intrinsic to the information systems of every advanced scientific-industrial society. I do not mean the study of human factors in technologies from other sciences, or the social impacts of these technologies. Nor, finally, do I mean the various techniques that the social sciences have developed in pursuit of their own research aims, such as coding of open-ended questions, computer manipulation of large data sets, and computer-assisted interviewing, except insofar as these techniques have also entered the market place.

Kenneth Prewitt, president of the U.S. Social Science Research Council, listed a number of SST's in his annual report for 1979-1980. He writes: "Standardized educational and intelligence testing, economic forecasting, political polling, psychotherapy, man-machine system design, programmed language instruction, consumer research, cost-benefit analysis, behavior modification, and demographic projection are examples of, but do not exhaust the list of, multimillion dollar industries in the United States that started as social science discoveries" (Prewitt, 1980). I would of course add to this list, while taking away psychotherapy, which I do not understand to have much of a base in social science research. Among my additions would be self-paced programmed instruction, life tables for the writing of mortality insurance, quality control circles in Japanese automobile factories, behavioral profiles of assassins and airplane hijackers, "total immersion" language instruction, and standardized personnel testing procedures.

Most of these technologies are rooted in more than one of the social sciences. Mathematical and statistical methodologies undergird them, just as they undergird technologies produced by our sister sciences of physics, chemistry, and biology. As with most other technologies, persons using them are now largely responsible for their further development and broader application, and social scientists may or may not make further contributions. But each of these technologies was dependent in its early stages, at least, on a seed of knowledge from social science research: self-paced programmed instruction grew from laboratory studies of learning and reinforcement; standardized personnel testing grew from studies of personality and ability; and quality control circles grew from research on group dynamics, productivity, and morale. Each is based in some way on concepts or models that social scientists have developed: life tables, on a special case of stable population theory; econometric forecasting models, on either demand-side or supply-side models of national economies; and behavior modification, on organismic responses to reward and punishment. Social science even has its own engineering departments and technical advice-giving programs, many of which use SST: city planning, social work, public finance, organizational administration, communication, land use management, public law, and program evaluation.

To depart for a moment from these existing technologies, it is an interesting and possibly profitable endeavor to speculate about the SST's that may be important in the future and the research they would require. A critical problem facing a nuclear society is the disposal of wastes that will remain toxic for tens of thousands of years. The technological solution is not solely to be found in concrete, steel, glass, and deep burial. Assuming that the chemical, geological, and structural problems are solved, what is the technology that will communicate across the generations the specific message of danger and ensure that this message is believed and acted on? This technology must work for a longer time than has existed complex human society and for many multiples of the time that any human government has stood. It must carry its message undistorted despite the evolution of language for a period longer than was required for the appearance of the many languages of Europe and Asia. It must survive what could be massive social change, disruption, and war. Even over a forty-year period there appears to have been some deterioration of knowledge about those toxic wastes generated by the Manhattan Project, which was the World War II atom bomb program that had sites scattered in half the states of the U.S. (Walsh, 1981). If the social sciences have knowledge that bears on this problem, it may be found in anthropology's study of priesthoods and ritual, and in history's study of long-lived institutions such as military tradition and religious authority.

We could engage in similar speculations about technologies for a globe that will bear double its current population or a society that will implement the communications capabilities the electronic engineers have readied. My guess is that society will demand much more from SST's in the future than it does today, and that technological development will become a recognized part of the work of the social science disciplines.

Indicators of social science technologies

In most of the advanced scientific-industrial nations of the north there exists a body of official statistics that provide quantitative descriptions of aspects of science and technology. These statistics have proved to be useful in setting national science policies and in assessing strengths and weaknesses in the various scientific disciplines and the technological industries that draw on them. Legislators and program administrators look to these statistics for descriptions of the conditions of science and for an accounting of what science brings to a society. Scholars use these indicators to pursue their own studies of scientific innovation and technological diffusion (Elkana et al, 1978; Zuckerman and Miller, 1980).

Missing from these national statistics is evidence of the technologies that the social sciences have developed. Investments in testing geological strata for oil deposits are tabulated, but investments in testing students for the potential to learn to program computers are not. Investments by computer scientists in developing compiler-level languages are recorded but research by linguists on the sign language of the deaf is not. Most industries known to man are accounted for except those built on SST's.

Official indicators of science and technology in the United States began in 1953, with the publication of data from surveys on the "funding and performance" of research and development. In 1979 the U.S. National Science Board published Science Indicators 1978, the fourth in a series of quantitative assessments of U.S. science and technology. This report concentrates on the "inputs" to science of money and people, classified by field, economic sector, and industry. The "outputs" of science and technology are recorded in patents and published articles. As might be surmised from this characterization of the data employed, both basic research and technological development in the social sciences are inappropriately or inadequately treated. In a review of the 1976 report, the General Accounting Office (an agency of the U.S. Congress) observes that the model inherent in these statistics assumes that "physics, chemistry, biology, and math are the most important sciences, and hence deserve the most complete coverage (1979:20)". One cannot look to this report for quantitative information on SST's.

Nor can one look to The Measurement of Scientific and Technical Activities, the influential "Frascati Manual" proposed by the Organization for Economic Cooperation and Development (1976) as a guide to standard practice for surveys of research and experimental development. The Frascati Manual generally excludes technologies from its purview, and explicitly excludes SST's from its three categories of basic research, applied research, and experimental development. The Manual says the following: "Many social scientists perform work in which they bring the established methodologies and facts of the social sciences to bear upon a particular problem, but which cannot be classified as research. The following are examples of work which might come in this category and are not R[esearch] and D[evelopment]: interpretative commentary on the probable economic effects of a change in the tax structure, using existing economic data; forecasting future changes in the pattern of the demand for social services within a given area arising from an altered demographic structure; operations research (OR) as a contribution to decision-making, e.g., planning the optimal distribution system for a factory; the use of standard techniques in applied psychology to select and classify industrial and military personnel, students, etc., and to test children with reading or other disabilities" (OECD, 1976:24).2)

We cannot incorporate SST into official statistics by adopting the

---

2) Nor is any guidance to be found in a book on social forecasting by Olaf Helmer, to which he gave the title Social Technology (1966).

categories and concepts that are used for other technologies. The industrial categories that have apparently proved to be useful for the measurement of physical, chemical, and biological technologies will not, I think, prove useful in the design of indicators of SST's.

These technologies are crosscutting, put to work in more than one industry. Personnel testing pervades all industrial sectors; demographic projections are used by manufacturers of baby food and by electric utilities; and the technology for securing toxic waste will serve both the chemical and nuclear industries.

In the place of a classification of technology by industry, I suggest experimenting with a classification in terms of the aspect of social, economic, or political affairs that an SST serves. There is a great variety of suitable classifications available in the literature on social indicators. For example, the preliminary social indicators guidelines of the United Nations identify twelve areas: learning and educational services; health, health services, and nutrition; time use; public order and safety; and so forth (UN, 1978:43-50). The Frascati Manual offers a classification by particular socio-economic objectives for research and development, which incidentally also includes twelve categories: production and rational use of energy, protection of the environment, transport and telecommunications, defense, and so on (OECD, 1976:43-50). Another level of classification could categorize the unit of society that is directly affected by an SST: individuals, business enterprises, governments, other organizations, relations among organizations, and relations among individuals and organizations. Still another level of classification could be based on the concept of basic human needs, of which Johan Galtung(1980:66) has provided a working list. In the four major categories of security, welfare, identity, and freedom Galtung itemizes the basic needs of individual human beings. These classifications have potential for informing the study of all technologies, not just the SST's produced by the social sciences; but because they begin with social concepts, they may be particularly appropriate for our analyses.

Statisticians count the patents awarded for physical, chemical, or biological innovations; count the scientists and engineers involved in research and development; and count the money spent by governments and industry on research, development, and adoption of technologies. Economists estimate the costs and benefits of specific technological changes, sometimes extending their analyses to estimates of the impact on the length or quality of human lives. Are such statistics appropriate as points from which to begin the measurement of SST's? I suspect that they are, with the exception of patent statistics, chiefly because they are reasonable things to study and also because such statistics will permit comparisons among the various technologies. For example, we could compare the costs and benefits of social science and solutions to problems of urban transportation, and the increase in productivity and hardware accounted for by quality control circles may be compared to the increase that automation provides.

In parallel to these conventional objective measures, we should collect subjective reports from individuals on their perceptions of how SST's have affected their lives, with particular regard to their attitudes, feelings, happiness, and levels of satisfaction. These subjective indicators have been illuminating in such diverse areas as crime statistics and studies of economic growth, and they probably have much to tell us about personnel testing, behavior modification, quality control circles, and man-machine system design.

Research on Social Science Technologies

Research can determine which sectors of society control the use of the various SST's and who benefits (or suffers) from their use. It is my impression that most SST's are in the hands of organizations, not of individuals, and that it is often organizational ends, rather than individuals' needs, that they serve. Personnel testing serves an organization's needs for differentiating among candidates for a position, but is rarely used to serve the individual's needs for choosing an occupation. Demographic and economic forecasting are useful to governments and large businesses, and are under their control. Schools elect methods of instruction, and unions or companies organize quality control circles. With the exception of psychotherapy, the practitioners of SST's usually deliver their services to organizations, not to individuals. It is perhaps not odd that SST's, being rooted in understandings of social life, serve the ends of collectivities such as businesses and governments, and not necessarily those of individuals, but I admit I find this disquieting.

We need studies of the effect of SST's on the welfare of entire societies. To what degree does a technology serve a society's goals? In the United States what is known as the "social indicators movement" partly grew out of the perception that one SST, economic accounts and econometric forecasting, was not adequate for the needs of society and was in fact rather dangerous. The social indicators movement proposed to create a competing SST for enabling a society to shape its collective fate.

Lastly, we need assessments of the quality of the knowledge that underlies an SST. Life tables, and the more general stable population models, are the products of a research tradition of unusual strength for the social sciences. Demographers have a data base of fairly high quality that contains observations extending over many years for many societies. Their equations are based on well-understood, straightforward theory, and years of experience in the insurance industry have shown that life tables can be relied upon. Is the research base equally strong for quality control circles, behavioral profiles, and personnel testing? I suspect that there are some technologies in wide use that are based on defective research and partial knowledge, and that not all of these are from physics, chemistry, and biology. There is a degree to which social science remains responsible for the scientific quality of the technologies it creates, just as nuclear physics recognizes its continuing responsibility for nuclear engineering.

Conclusion

Social scientists have conducted important research on the technologies produced by the physical, chemical, and biological sciences. Their research encompasses the nuclear accident at Three Mile Island, Pennsylvania;

the social effects of aviation and of the elevator; the Jacquard loom; highways and airports; and water irrigation systems. Social science theorists such as Ogburn, Lenski, and Hawley give a prominent place to technology. International journals publish scholarly articles on science and technology by economists and sociologists.

Missing from our own research, from our theories, and from the advice we give to official statisticians is the concept of the social sciences as part of the system of science that produces technologies at work in the economy. It is almost as if we discriminate against applications of our own knowledge, preferring the exotic work of other disciplines.

Comprehensive statistics and research on science and technology must include the SST's in their domains. The SST's are important to the society, the polity, and the economy, and scholars of science and technology will profit from study of them.

References

Elkana, Yehuda, Joshua Lederberg, Robert K. Merton, Arnold Thackray, and Harriet Zuckerman 1978. Toward a Metric of Science: The Advent of Science Indicators. New York: John Wiley and Sons.

U.S. General Accounting Office 1979. Science Indicators: Improvements Needed in Design, Construction, and Interpretation. Washington: G.A.O.

Galtung, Johan 1980. "The Basic Needs Approach." Pp. 55-125 in Katrin Lederer ed., Human Needs: A Contribution to the Current Debate. Cambridge, Mass.: Oegeschlager, Gunn and Hain.

Helmer, Olaf 1966. Social Technology. New York: Basic Books.

U.S. National Science Board 1979. Science Indicators 1978. Washington: U.S. Government Printing Office.

Organization for Economic Cooperation and Development 1976. The Measurement of Scientific and Technical Activities. Paris: OECD.

Prewitt, Kenneth 1980. "Annual Report of the President 1979-80." Pp. xiii-xxvii in Annual Report 1979-1980 of the Social Science Research Council. New York: S.S.R.C.

United Nations 1978. Social Indicators: Preliminary Guidelines and Illustrative Series. New York: United Nations.

Walsh, John 1981. "A Manhattan Project Postscript." Science 212:1369-1371.

Zuckerman, Harriet and Roberta Balstad Miller. Science Indicators: Implications for Research and Policy. Vol. 2 No. 5-6 of Scientometrics. Amsterdam: Elsevier Scientific Publishing Co.

A COMPUTER CENTER SURVEY:

WHAT STUDENTS DON'T LIKE

GARY P. FISHER
HAY-HUGGINS ACTUARIAL CONSULTANTS
PHILADELPHIA, PA

INTRODUCTION

The idea for a survey of users at the "Metro" University Computer Center grew out of personal observations made when using the facility in September 1980. Service times -- both to use a keypunch machine and to receive one's printed program -- seemed inordinately and uncomfortably long. Cramped and crowded waiting areas made these service delays even more unpleasant. The consultants on duty were sometimes nowhere in sight, sometimes besieged by long lines of of students, and usually, once one got an interview, unfriendly. Assuming that these experiences were not unusual, I hypothesized that lengthy service times and inadequate consulting might lead to dissatisfaction among users with the computer facilities.

A queueing study would have provided precise waiting times and queue lengths for computer center services, but my concern was the impact these factors have on user satisfaction. I anticipated that those segments of the user population with more limited access to the facilities -- commuting students traveling 25 or more minutes from home -- would feel the waiting times more intensely. These students have less flexibility than "Metro" residents in choosing when to avoid those crowded periods that arise unexpectedly at the center. Long-distance commuters, I predicted, should therefore experience longer waits and rate the center's performance lower than their non-commuting counterparts.

METHODOLOGY

The Questionnaire

I devised for the pre-test a two-page, thirty-question self-administered survey which solicited demographic information, ratings of some services, average waits for turnover and keypunches, suggestions for improvement (more keypunches, longer hours, and so on), and user characteristics. These user characteristics included how often and at what times a student used the center and what languages he could program in.

The Sample

My sample of 40 computer center users consisted mostly of males (67.5%), commuters (72.5%), and either sophomores (37.5%) or pre-juniors (27.5%). Exactly half of the students travelled more than 25 minutes to reach the center. The relative absence of freshmen (7.5%) and graduate students (7.5%) from the sample is notable but not inexplicable. Few freshmen take computer courses because they must first satisfy curriculum requirements and course prerequisites; many graduate faculty (in business or library science, for example) encourage their students to use the facilities at a computer utility elsewhere.

The sample embraces a fairly sophisticated group of programmers: 70% report that they know more than one high-level or assembler language; 90% know Fortran; 55% know languages other than PL/1, Fortran, or Cobol. Respondents used the center an average of 3 days and 8.5 hours during the week preceding the survey, which took place the week of February 8, 1981.

The 40 questionnaires were completed within two full days (Tuesday and Wednesday). Because most students did not answer questions that demanded a written response, I was unable to collect data on users' majors or the course that required them to use the center.

Index of Satisfaction

To measure fully a user's satisfaction with the computer facilities, I devised an index of satisfaction composed of the following responses:

RESPONSE	VALUE
CENTER HOURS SHOULD NOT BE EXTENDED	1
BLANK CARDS ARE USUALLY AVAILABLE	1
CONSULTANTS ARE HELPFUL	1
CONSULTANTS ARE KNOWLEDGEABLE	1
KEYPUNCH INSTRUCTIONS ARE CLEAR AND MACHINE IS EASY TO OPERATE	1
CARD READER INSTRUCTIONS ARE CLEAR AND MACHINE IS EASY TO OPERATE	1
OPERATING HOURS ARE CONVENIENT	1
COMPUTER FACILITIES ARE ADEQUATE	3
TOTAL	= 10

Scores on the satisfaction index included all values from 0 to 10 with a median of 5 and an interquartile range of 3. Individual scores were collapsed to create three degrees of user satisfaction, LOW (0-4), MODERATE (5-7), and HIGH (8-10) for crosstabulation and analysis. (TABLE 1.)

The index of satisfaction encompasses and enlarges upon the user's response to the question of the center's adequacy. Comprising a number of sources of user satisfaction -- ratings of consultants, readability of machine instructions and ease of machine operation, adequacy of operating hours -- the index gives a fuller, more objective picture of the user for crosstabulations with demographic variables. In crosstabulations with service factors (turnover and keypunch waits, consultant ratings), the adequacy rating was principally used, since the satisfaction index included too many items unrelated to the problems under analysis.

Responses concerning waiting times were excluded from the index because the a priori determination of how long a waiting time must be before it equals 1 point on the index begs the question of this study.

RESULTS

The median score of 5 on the 10 point satisfaction index strongly suggests that services could be improved at the "Metro" Computer Center. 44.7% of the respondents rated the center not adequate, contributing to these low index scores. Students were also critical of the center's operating hours and consultants. Although 74.4% said that the current operating hours were convenient, 64.7% would still like those hours extended. Consultants were rated as more helpful (70% found them helpful) than knowledgeable (62.5%). More positive ratings include: 93.9% thought that keypunch instructions were clear and the machine was easy to operate; 87.5% felt the same way about the card reader; 68.8% reported that an adequate supply of blank cards was usually available.

To uncover those factors that might contribute to a user's low satisfaction score or rating of the center as not adequate, I crosstabulated demographic variables, user characteristics, and service factors with user satisfaction; and service factors with the rating of center adequacy.

Negative ratings of consultants (not helpful, not knowledgeable) and high turnover times (over 15 minutes) were the service factors most strongly associated with a user's rating of the center as not adequate (TABLES 2-4). The availability and waiting times for a keypunch, conversely, exhibited little or no relationship with the adequacy rating (TABLES 5-6).

All three of the service factors that were strongly associated with center inadequacy were only slightly less related to low user satisfaction (TABLES 7-9). Even though both consultant ratings did account for one point each in the index, one can not discount the strong association between user dissatisfaction and the belief that a consultant is not helpful or knowledgeable. On the other hand, only one item related to keypunching revealed any association with user satisfaction. Longer keypunch waits, contrary to expectations, tended to go along with high satisfaction scores (TABLES 10-11). Those students who spent the most hours at the center during the week of February 8 (though not necessarily the most days) reported lower satisfaction scores than other students (TABLE 12).

The strong associations of turnover time and the availability of helpful and knowledgeable consultants with user satisfaction and center adequacy suggest that difficulties in the running and debugging of computer programs, rather than their keypunching, greatly contribute to a student's rating of the center's performance. "Metro" computer center users appear to be goal-oriented. Unproductive moments spent waiting for programs to work prove more unsatisfactory than time spent on routine tasks (waiting for keypunches to become available). And the more hours a student spends at the center running, consulting about, and debugging his programs, the greater his dissatisfaction with services tends to be.

Independent demographic variables (sex, class, commuter or resident student) had little observed effect on user satisfaction. Students who travel 25 or more minutes to reach the center reported ratings and exhibited user habits mostly indistinguishable from other students. Contrary to expectations, the association between a student's travel time to the center and satisfaction score was weak and statistically insignificant (TABLE 13). These long-distance commuters did not rate consultants appreciably lower than did other students: 71.4% to 68.8% helpful, 60% to 68.8% knowledgeable. They don't use the center more (7.8 to 8.1 hours per week) or at different hours. Ratings of center adequacy did not vary significantly when cross-tabulated with travel time (TABLE 14).

Students who travel 25 or more minutes to the center, however, did tend to wait longer for keypunches to become available (TABLE 15), as expected. But longer waits for keypunches, as has been shown, do not lead to lower ratings of the center. It was in their attitudes toward current operating hours that these students were most distinctive. Only 57.9% of them, as opposed to 94.7% of the other students, found these hours convenient. Extending these operating hours, however, did not receive significantly more approval from long distance commuters 68.8% to 58.8%. One must conclude from this data that problems incurred in the running and debugging of problems have a greater impact on a traveling student's rating of the center than do his scheduling problems and waits for keypunches.

CONCLUSIONS

While most students found that keypunches and cardreaders were easy to operate and that center hours were convenient for them, they were less affirmative in their ratings of consultants and the overall adequacy of the center. 44.7% thought that the facilities were not adequate; this contributed greatly to the median of 5 on the 10 point user satisfaction index. The unavailability of and long waits for keypunches did not, however, tend to lower user satisfaction. Rather, long job turnover times and low ratings of consultants strongly associated with an inadequate rating of the facility as well as with low satisfaction scores. It is not the waiting, then, but what you wait for that matters to users. Disturbances in the running and debugging of programs generate user dissatisfaction.

Given this goal-orientation of "Metro" computer users, efforts spent on improving consulting services and reducing turnover times should have the greatest impact on improving computer center performance, as measured by its users. Employing more dispatchers and consultants would be more ameliorative than purchasing new keypunch machines.

Table 1. User satisfaction index

Score	Frequency	Percent
0 - 4 LOW	16	40
5 - 7 MEDIUM	12	30
8 - 10 HIGH	12	30
	40	100

Table 2. Center adequacy by average turnover time

	Average Turnover Time (Minutes)	
Adequate	0-15	16 or more
Yes	71%	36%
No	29	64
	100%	100%
	N=17	N=14

Table 3. Center adequacy by consultant knowledgeability

	Consultants Are Knowledgeable	
Adequate	Yes	No
Yes	80%	18%
No	20	82
	100%	100%
	N=20	N=11

Table 4. Center adequacy by consultant helpfulness

	Consultants Are Helpful	
Adequate	Yes	No
Yes	76%	25%
No	24	75
	100%	100%
	N=21	N=8

Table 5. Center adequacy by average wait for keypunch

	Average Wait (Minutes)		
Adequate	0-5	6-10	11-15
Yes	75%	36%	50%
No	25	64	50
	100%	100%	100%
	N=4	N=11	N=4

Table 6. Center adequacy by availability of keypunches

	Keypunches Are Available	
Adequate	Usually	Not Usually
Yes	36%	71%
No	64	29
	100%	100%
	N=28	N=7

Table 7. User satisfaction index by average turnover time

	Average Turnover Time (Minutes)	
Satisfaction	0-15	16 or more
High	47%	25%
Medium	35	13
Low	18	62
	100%	100%
	N=17	N=16

Table 8. User satisfaction index by consultant helpfulness

	Consultants Are Helpful	
Satisfaction	Yes	No
High	55%	8%
Medium	30	25
Low	15	67
	100%	100%
	N=21	N=9

Table 9. User satisfaction index by consultant knowledgeability

Satisfaction	Consultants Are Knowledgeable: Yes	No
High	55%	8%
Medium	30	25
Low	15	67
	100%	100%
	N=20	N=12

Table 10. User satisfaction index by average wait for keypunch

Satisfaction	Average Wait for Keypunch (Minutes): 0-5	6-10	11-15
High	0%	36%	50%
Medium	20	27	25
Low	80	36	25
	100%	100%	100%
	N=5	N=11	N=4

Table 11. User satisfaction index by availability of keypunches

Satisfaction	Keypunches Are Available: Usually	Not Usually
High	34%	25%
Medium	32	25
Low	34	50
	100%	100%
	N=29	N=8

Table 12. User satisfaction index by hours spent in center

	Hours Spent in Center		
Satisfaction	0-5	6-10	11-20
High	56%	15%	9%
Medium	25	31	36
Low	19	54	55
	100%	100%	100%
	N=16	N=13	N=11

Table 13. User satisfaction index by travel time to center

	Travel Time to Center (Minutes)	
Satisfaction	0-25	25+
High	32%	30%
Medium	42	20
Low	26	50
	100%	100%
	N=19	N=20

Table 14. Center adequacy by travel time to center

	Travel Time to Center (Minutes)	
Adequate	0-25	25+
Yes	63%	50%
No	37	50
	100%	100%
	N=19	N=18

Table 15. Average wait for keypunch by travel time to center

	Travel Time to Center (Minutes)	
Average Wait	0-25	25+
0-5 Min.	38%	18%
6-10 Min.	50	55
11-15 Min.	12	27
	100%	100%
	N=8	N=11

DATA SERVICES: DEVELOPMENT AND MANAGEMENT

IASSIST INTEREST GROUP ANNUAL REPORT (1981)

The interest group now known as "Data Services: Development and Measurement" (DSDM) was established at the 1980 IASSIST Conference in Washington, D.C. as a vehicle for insuring ongoing information exchange in the area of managing data services.

Two specific activities were agreed upon by members attending the organizational meeting:

- Special interest group meetings to discuss common problems and alternative solutions would be scheduled at regional and international meetings.
- An archive registry would be produced to assist members in locating data. The registry would not be an exhaustive effort rather a quick index to major existing archives.

Additional projects which might facilitate the development and administration of data services were to be considered in the future on the basis of individual interests.

The DSDM group is concerned with the political, economic, administrative, and technical problems associated with the administration and management of data services. Topics generally of interest to members include but are not restricted to recruiting personnel, securing funding, allocating scarce resources, institutionalizing operations, developing constituencies, extending organizational contacts, increasing data utilization, acquiring archive support systems, creating standards which increase productivity, evaluating potential acquisitions, defining user needs, and routinizing the data identification process.

CURRENT YEAR ACTIVITIES

Given the 1981 conference organization, a special interest group meeting was not formally scheduled for Grenoble. Laine Ruus, co-chair of DSDM, was responsible for organizing conference workshops. Members were therefore encouraged to utilize the workshop on the "Organization and Management of Data Services" chaired by Bjorn Henrichsen and Terje Sande of the Norwegian Social Science Data Services as a forum for discussing relevant management issues.

Work on the archive registry has been progressing slowly. Many existing archive name and address lists have been collected and are being examined by Don Trees. Once an aggregate list has been constructed and reviewed, selected organizations will be sent a brief survey form. Return of the form will validate the archive's existence, and supply updated name, address, telephone number and contact person for the registry.

Additional information including questions concerning the nature and number of data files archived, the current staffing pattern, existing access restrictions, and major subject area holdings will also be requested.

Organizations returning completed questionnaires will be included in the final published registry provided they meet inclusion criteria. The criteria currently being considered would require that the archive have:

- A collection of at least 25 or more different numeric, social science data files.
- Some files which were not acquired from existing consortium memberships (e.g., ICPSR, Roper, etc.).
- At least one full-time person equivalent committed to providing services and maintaining the machine-readable files.
- Access policies which would permit individuals outside the archive's normal user population to utilize data under some conditions.

Comments concerning the above criteria are now being solicited. Archives feeling that they might be eliminated inappropriately under the above criteria should contact one of the interest group co-chairs.

FUTURE PLANS

A special meeting of the DSDM interest group is scheduled for the 1982 meetings in San Diego. Among the topics for discussion will be procedures and strategies for operating archives within tight budget constraints or more pessimistically, surviving budget cuts.

A preliminary archive list and the registry questionnaire should be completed before the 1982 conference. Some results may also be available.

Any suggestions or comments prior to the May 1982 meetings should be directed to interest group co-chairs:

Don Trees
Manager, Data Services
The Rand Corporation
1700 Main Street
Santa Monica, CA 90406 USA

Laine Ruus
Data Library
University of British Columbia
6356 Agricultural Road
Vancouver, BC V6T1W5 CANADA

CENSUS BUREAU: NEED FOR FOREIGN CENSUS AND SURVEY DATA

For some time the International Demographic Data Center of the U.S. Bureau of the Census has been engaged in efforts designed to establish and build up a demographic data base for the world's developing nations. These efforts have included contacts with over 150 individual countries to obtain data and information on available sources, including the results of national population censuses, surveys, and registration data. Materials collected so far consist for the most part of printed or unpublished hard-copy books, articles, and reports.

IDDC is now seeking to expand its holdings of population census and survey data in machine-readable form, and in this connection, we would greatly appreciate the cooperation and assistance of *IASSIST Newsletter* readers.

If you (or your organization) have census or other population data in machine-readable form for one or more of the world's developing countries, IDDC would like to hear from you. Please send us the following information concerning a person IDDC can contact about this data:

____
Name

____
Telephone Number

____
Organization

____
Street address

____
City

____
State Zip code

IDDC will observe any restrictions governing the use or publication of any machine-readable data shared with us, or will be happy to request official authorizations from foreign governments where this is deemed necessary or appropriate.

International Demographic Data Center
U. S. Bureau of the Census
Scuderi Building, Room 205
Washington, D.C. 20233

IASSIST

Treasurer's Statement for Calendar Year 1980

		Amount in Can. or U.S. Dollars
A. Revenues: Membership Fees and Interest		
1. Membership Fees		$ 3,431.06
(fees for 1980 and previous years received in 1980)		
Asia	$ 100.00	
Canada	572.00	
Western Europe	336.06	
United States	2,465.00	
2. Interest (from IASSIST chequing accounts)		143.37
SUBTOTAL A: MEMBERSHIP FEES AND INTEREST		$ 3,574.43
B. Net Revenues: Conferences, Workshops, and Meetings		
*1. Revenues: (none received by the Treasurer as of July 17, 1981)		none
*2. Expenses: 1980 Annual Conference, Washington		$ (710.02)
3. Expenses: Regional Meeting, Vancouver, June, 1980		(32.00)
**4. Expenses: 1981 Annual Conference, with IFDO, Grenoble		(121.11)
SUBTOTAL B: NET REVENUES, CONFERENCES, ETC.		$ (863.13)
C. Operating Expenses		
1. *Newsletter* Printing and Postage (Vol. 3, nos. 2,3,4)		$(1,468.43)
2. *Newsletter* Editor's Expenses		(65.28)
3. 24 Subscriptions to *SS Data*, @ $3.00		(72.00)
4. IASSIST Headquarters' Expenses (for period 1 May 79 - 30 April 80, paid in 1980)		(500.00)
5. IASSIST President's Expenses		(301.52)
SUBTOTAL C: OPERATING EXPENSES		$(2,407.23)

.../overleaf

IASSIST - Treasurer's Report for 1980

	Amount in Can. or U.S. Dollars
D. Carry Forward from 1980 (A+B+C)	$ 304.07
E. Cash Position as of December 31, 1980	
1. Carry Forward from 1980	$ 304.07
2. Carry Forward from Previous Years	5,243.33
TOTAL CASH ON HAND	$ 5,547.40

CAN$ Account Statement Balance	$ 990.68	
US$ Account Statement Balance	$ 4,556.72	
TOTAL (adjusted for outstanding cheques)		$ 5,547.40

NOTES: * *As of July 17, 1981 the Treasurer has not received from the Washington Conference Committee revenues or vouchers for additional expenses for the 1980 Annual Conference. These items will be reported for the calendar year in which they are received by the Treasurer.*

***IASSIST's support for the 1981 Annual Conference, joint with IFDO, is limited to an amount not to exceed U.S. $500, for pre-conference administrative and publicity expenses incurred by IASSIST members of the 1981 Conference Program Planning Committee.*

Ed Hanis

Ed Hanis, Treasurer
July 17, 1981

cmf

INPUT SOUGHT ON NEW CONSTITUTION

About two years ago the Administrative Committee decided that IASSIST's constitution should be revised to ensure that all roles and activities performed by the General Assembly and the Administrative Committee were properly defined and described. Harold Naugler undertook to rewrite the constitution. A copy of the revised constitution has been printed in the latest volume of the IASSIST Newsletter for the review of all members of the Association.

In order to adopt the revised constitution, each article must be reviewed in detail and approved by the members of the General Assembly at their annual meeting. The Administrative Committee decided at its meeting in Grenoble, France that the voting on the adoption of the revised constitution will take place at the May, 1982 conference. All members are requested to review the proposed constitution thoroughly. Any amendments should be made in writing and sent to me before March 30, 1982. All members should note that an amendment proposed in one article could necessitate changes in other articles of the constitution. All of these must be involved in the member's written statement.

For the information of all Members, Mr. Naugler used the constitutions of the following organizations as source material for the preparation of the revised constitution: IASSIST, Society of American Archivists, Association of Canadian Archivists, Canadian Records Managers Institute and Association of Records Managers and Administrators.

A special session on the constitution will probably be held at the May meeting depending, of course, on the input from the members. I hope that all of you will take the time to review the proposal in detail as it is most important that IASSIST has a well defined and workable constitution.

Sue Gavrel
Canadian Secretariat

Machine Readable Archives
Public Archives of Canada
395 Wellington Street
Ottawa, Ontario
K1A 0N3
CANADA

INFORMATION IMPACT FOR THE 80'S:
THE INTEGRATION OF DATA SERVICES, PROCESSING, AND UTILIZATION

iassist

international association for social scien
information service and technology

association internationale pour les
services et techniques d'information e
sciences sociales

Annual Conference and Workshops
May 27-30, 1982

Hotel del Coronado
San Diego, California USA

PRELIMINARY ANNOUNCEMENT AND CALL FOR PAPERS

Fiscal limitations have increased the need for the integration of previously separate functions involved with the services, processing and uses of information. Today and through the next decade, valuable data resources will be available only in a machine-readable format.

The 1982 IASSIST Conference will feature presentations on a wide variety of topics of interest to social scientists, data archivists, librarians, researchers, programmers, urban planners and government agency administrators. The Program Committee is now soliciting contributions in the form of papers, proposals for panel discussions, workshops or tutorials to be presented at the conference.

All papers or proposals concerned with the generation, transfer, retrieval and use of machine-readable social science data will be considered. Papers or proposals which address any of the listed topics or discuss issues and techniques related to integrating the service, processing and utilization functions are particularly encouraged.

The following schedule will be observed:

	Due Dates
o Abstract receipt by Program Committee	January 11, 1982
o Notification of acceptance or rejection	February 8, 1982
o Preliminary Conference Program	March 1, 1982

Authors of papers should prepare an abstract of less than 500 words and submit two copies to the Program Committee. Proposals for special panel sessions or tutorials should be written up in sufficient detail to explain the presentation or the role of discussants, and submitted according to the directions for abstracts.

Questions, intent forms and abstracts should be directed to: IASSIST 82 Program Committee, c/o Don Trees, The Rand Corporation, 1700 Main Street, Santa Monica, CA 90406, or c/o Ilona Einowski, State Data Program, 2538 Channing Way, Berkeley, CA 94720.

INFORMATION IMPACT FOR THE 80'S:
THE INTEGRATION OF DATA SERVICES, PROCESSING, AND UTILIZATION

PROPOSED 1982 IASSIST CONFERENCE TOPICS

Services*

- Integrating data services, processing and utilization.
- Documentation problems in complex, longitudinal data bases.
- City, county and regional data availability and quality.
- Reducing the cost of data access and utilization.
- Improving access and utility of government data.
- Cross-national data availability and quality.
- Trends in data access and use restrictions.
- Effects of fiscal limitations on archives.
- Data oriented indexing and cataloging.
- Criteria for evaluating data utility.
- The role of libraries and archives.
- Defining and researching user needs.
- New areas for services.
- Resource sharing.

Processing*

- Efficient use of statistical packages on large files.
- Processing survey, ecological or cartographic data.
- Machine-readable codebooks and data dictionaries.
- Error identification and resolution.
- Computer mapping and graphics.
- Evaluation of relational data bases.
- Data interchange between systems.
- Natural language systems for data access.
- Networks and shared or distributed data bases.
- Constructing geographically oriented data bases.
- Evaluating access and query commands for on-line data.

Utilization*

- Major subject area data bases.
- Interpreting public opinion data.
- Resolving missing data problems.
- Merging census and local area data.
- Issues and problems using census data.
- Social indicators and available data.
- Reducing data collection and reduction errors.
- Secondary data analysis techniques and examples.
- Effects of new research directions on data needs.
- Urban information system data for policy research.
- Effects of question wording and response options.
- Problems using administrative records or process data.
- Aggregating and disaggregating variables or units of analysis.

*A series of technical workshops will be given on Thursday, May 27, 1982. Topics will include the development of data services, data processing support, and methods of utilization. The workshops will be substantive in orientation and focus on procedures and applications.

iassist

1982 CONFERENCE INTENTIONS FORM

Name: ______________________________

Address: ______________________________

____

____

If submitting a paper, tutorial or proposal, please indicate area code and work telephone. ______________

Check all that apply

☐ I intend to submit a paper or tutorial whose probable topic or title is:

____

____

☐ I intend to submit a proposal for a panel discussion which I am willing to organize and chair and whose probable topic is:

____

____

____

☐ I am interested in the technical workshops and would recommend the following area for consideration:

____

☐ I will probably attend the 1982 IASSIST Conference in San Diego, California. Please send the conference information on registration and hotel reservations when available.

☐ I do not know whether I will be able to attend but please keep my name on the mailing list for further information.

MAIL TO

IASSIST 82 Program Committee
c/o Don Trees
The Rand Corporation
1700 Main Street
Santa Monica, CA 90406

or

IASSIST 82 Program Committee
c/o Ilona Einowski
State Data Program
2538 Channing Way
Berkeley, CA 94720

ADMINISTRATIVE COMMITTEE

President: Alice Robbin, Data and Program Library Service, University of
Wisconsin, 4452 Social Science Building, Madison, Wisconsin 53706, U.S.A.

Vice President: Per Nielsen, Danish Data Archives, Niels Bohrs Alle 25,
DK-5230 Odense M, Denmark

REGIONAL SECRETARIES

Asia: Naresh Nijhawan, Indian Council of Social Science Research, Data Archive,
35 Ferozshah Road, New Delhi 11001, India

Canada: Sue Gavrel, Machine Readable Data Archives, Public Archives of Canada,
395 Wellington Street, Ottawa, Ontario, K1A 0N4, Canada

East Europe: Krzysztof Zagorski, Instytut Folosofii i Socjologii, Polskiej
Academii Nauk, Nowy Swiat 72, Palac Staszica, 00-330 Warszawa, Poland

West Europe: Henk Schrik, Steinmetz Archives, Herengracht 410-412, 1017 BX
Amsterdam, The Netherlands

United States: Judith S. Rowe, Computer Center, 87 Prospect Street, Princeton
University, Princeton, New Jersey 08544, U.S.A.

MEMBERS-AT-LARGE

Patrick Bova, National Opinion Research Center, 6030 South Ellis Avenue, Chicago
Illinois 60637, U.S.A.

Nancy Carmichael McManus, Social Science Research Council, 1755 Massachusetts
Avenue, N.W., Washington, D.C. 20036, U.S.A.

John de Vries, Department of Sociology, Carleton University, Ottawa, Ontario,
K1S 5B6, Canada

Sue A. Dodd, Social Science Data Library, Manning Hall, University of North
Carolina, Chapel Hill, North Carolina 27514, U.S.A.

Carolyn Geda, Inter-university Consortium for Political and Social Research,
P.O. Box 1248, University of Michigan, Ann Arbor, Michigan 48106, U.S.A.

Guido Martinotti, Archivio dati e programmi per le scienze sociali, via G.
Cantoni 4, 20144 Milan, Italy

Harold Naugler, Machine Readable Archives, Public Archives of Canada, 395
Wellington Street, Ottawa, Ontario K1A 0N4, Canada

EX OFFICIO

Treasurer: Ed Hanis, Social Science Computing Laboratory, University of Western
Ontario, London, Ontario, Canada

Editor: Howard D. White, School of Library and Information Science, Drexel
University, Philadelphia, Pennsylvania 19104, U.S.A.

INTERNATIONAL ASSOCIATION FOR SOCIAL SCIENCE INFORMATION SERVICE AND TECHNOLOGY

IASSIST

JUDITH S. ROWE, U.S.A. SECRETARIAT
PRINCETION UNIVERSITY COMPUTER CENTER
87 PROSPECT STREET
PRINCETON, NEW JERSEY

08544, U.S.A.

Non-Profit Org.
U.S. Posta[illegible]
[illegible]
Per[illegible] No. [illegible]
Ph[illegible]phia, PA 1910[illegible]